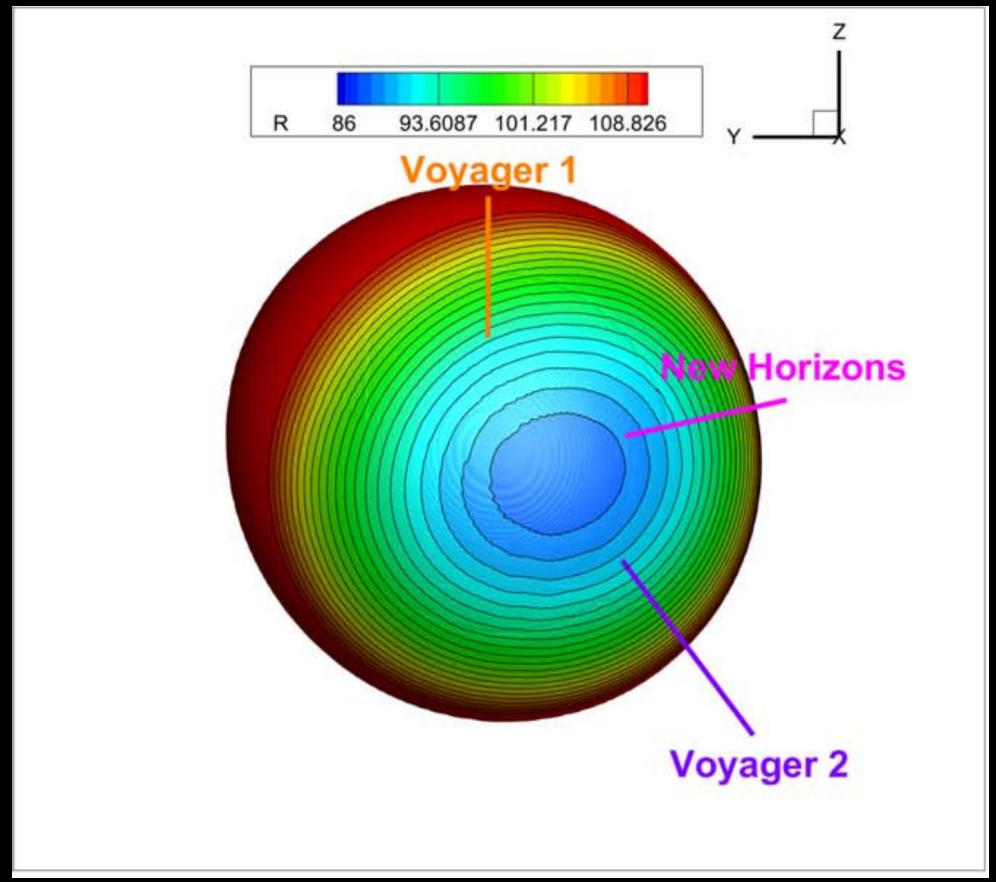
Termination Shock Particle Streaming // Upstream at New Horizons

A Prediction for the Upcoming New Horizons Termination Shock Crossing

- New Horizons is fast approaching the Termination Shock (TS)
- Voyager 1 & 2 both saw Termination Shock Particles (TSPs) prior to crossing the TS
- We the Boston University MHD Heliosphere model to predict what New Horizons will observe
- We find that New Horizons will have to be much closer to the Termination Shock to observe streaming TSPs
    - New Horizons will have to be 1AU from the TS as compared to Voyager 2 having to be within 1.7AU from the TS
- We also find the best and worst case scenario for the New Horizons TS crossing as 2.4 years and 0.2 years of TSP observations, respectively



Trajectories for V1, V2, and NH as orange, purple, and magenta lines, respectively, cutting through the TS showing the geometric differences between each trajectory.

Powell et al. *APJ L.*, [2025]; *https://doi.org/*10.3847/2041-8213/ad9c78